

AI & Compute Infrastructure • 2 Min Read

India's AI compute strategy needs value focus beyond GPUs

India's AI infrastructure development must shift focus from merely acquiring GPUs to delivering measurable business outcomes. This includes addressing power availability, cooling solutions, and building sovereign capabilities across the AI stack.

ETDatacenters

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Highlights

- India's AI infrastructure must shift from acquiring GPUs to delivering measurable business outcomes.
- Sovereign compute extends to hardware, software, models, and data tailored for India's unique needs.
- Power availability and advanced cooling are critical for high-density AI data centers in India.
- IndiaAI Mission is key for democratising AI compute access for startups and researchers.



India's expanding data center market faces the challenge of translating increased capacity into effective AI readiness, moving beyond simple megawatt additions. According to Swastik Chakraborty, VP of Technology at Netweb Technologies, the industry is transitioning from a "time-to-market" mindset to "time-to-success," where the emphasis is on generating business value from AI infrastructure investments.

Computing extends beyond GPUs, encompassing CPUs, FPGAs, and other accelerators that must work together with storage and networking to deliver value. While GPUs are central to modern AI models, the ecosystem is expanding to include neural processing units and LLM processing units, with future decisions driven by efficiency, lower power consumption, and alignment with specific business requirements.

Sovereign Compute and Domestic Capability

Sovereignty for India's AI infrastructure now encompasses hardware, software, models, and data, moving beyond just data locality. India must develop foundation models and data ecosystems tailored to its unique requirements, such as healthcare datasets, and build capabilities in designing motherboards, server platforms, software, and AI agents. While high-end processors and GPUs may still be sourced globally, India has significant opportunities to build indigenous capabilities across the rest of the stack.

Enterprise AI Adoption and Power Constraints

Enterprise AI buyers are increasingly demanding measurable business outcomes from their infrastructure investments, moving past mere experimentation. They are focusing on how AI can transform business processes, with decisions driven by cost per customer and inference costs rather than just access to GPU resources. This necessitates aligning AI infrastructure with business transformation and employee adoption.

Power availability and transmission infrastructure are emerging as critical constraints for high-density AI data centers in India. Solutions like federated data centers, distributing infrastructure across multiple locations, and advancements in cooling technologies, such as direct liquid cooling, are becoming essential. The design of IT infrastructure and the data center facility must now be considered together to address these challenges.

Democratising AI and Global Capabilities

Initiatives like the IndiaAI Mission are crucial for democratising AI compute access for startups, researchers, and institutions, ensuring resources are available beyond large enterprises. India aims to move from consuming global AI compute to exporting AI capabilities by building domestic infrastructure for models and inference services, making these available globally via APIs.